## REMARKS

Claims 1, 21, 24/1 and 25 stand rejected under 35 U.S.C. 102(e) as being anticipated by Payne et al. (US 6,498,669). Reconsideration is requested.

The Examiner alleges that Payne et al. discloses an optical dispersion compensation system having a non-linear dispersion compensation unit and a linear dispersi n compensation unit. However, the Examiner will appreciate that the "non-linear dispersion compensation" disclosed by Payne et al. is completely different to the "non-linear dispersion compensation" provided by the present invention.

In Payne et al., "non-linear dispersion compensation" means launching optical pulses into an optical fiber at a sufficient intensity to provide non-linear dispersion compensation (column 4, lines 20 to 23). This "compensation" effect is described in more detail in the background of the invention. Specifically, Payne et al. states that the non-linear properties of the glass from which the fiber is made may be used to compensate for group velocity dispersion (column 1, lines 32 to 35). Payne et al. then describes how a phase shift is induced when high intensity pulses are launched into a fiber. This phase shift translates into a frequency shift, which causes higher frequency components to appear at the rear of the pulse and lower frequency components to appear at the front of the pulse. Since the higher frequency components propagate faster, the pulse narrows as the higher frequency components catch up with the lower frequency components. Eventually, due to losses, the pulse will have insufficient intensity to induce a phase shift and it will disperse.

Although this refractive index non-linearity effect described in Payne et al. may b used to significantly increase transmission distances in optical communication networks, it does not induce any chromatic dispersion, linear or non-linear, positive or negative. Instead, the effect merely provides a way of mitigating the effects of

Accordingly, Applicants respectfully submit that Payne et al. does not anticipate amended claim 1.

The present invention is concerned with providing linear and non-linear chromatic dispersion as two separate degrees of freedom. In contrast, Payne et al. is concerned with increasing the transmission distance of an optical communication network by utilizing the dispersion mitigating effects of refractive index non-linearity (for a first length of fiber), and linear dispersion (for a second length of fiber).

The disclosure of Payne et al. would not provide the person skilled in the art with any motivation to provide linear and non-linear chromatic dispersion as two separate degrees of freedom. Furthermore, the disclosure of Payne et al. would not provide the person of ordinary skill in the art with any hint as to how it might be achieved.

Accordingly, Applicants respectfully submit that claim 1 would not have been obvious over Payne et al.

The above arguments also apply to claim 25, which is directed to a method of providing dispersion compensation corresponding to claim 1.

Detailed arguments are not presented in respect of dependent claims 2 to 24 and 26 to 30, since the relevant objections are no longer considered pertin nt. Nevertheless, the arguments of the Examiner should not be taken to be accepted.

A number of the dependent claims have been amended to reflect the changed antecedent basis provided by independent claims 1 and 25, and to correct typographical errors.

New claims 36 and 37 have also been added. Independent claim 36 is directed to an optical dispersion compensation device that only applies chromatic dispersion

that varies with wavelength, while dependent claim 37 provides an additional unit that applies chromatic dispersion that does not vary with wavelength.

In view of the above amendments and arguments presented with this response, it is hereby respectfully submitted that this application is in order for allowance. Such action is therefore solicited.

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